SONY®

VIDEO CASSETTE RECORDER 8

OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly and retain it for future reference.

OWNER'S RECORD

The model and serial numbers are located on the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon Sony dealer regarding this product.

Model No. EV-C8U Serial No. _____

Video 8

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WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To reduce the risk of fire, do not remove cover (or back).

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Information

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—reorient the receiving antenna
—relocate this equipment with respect to the receiver
—move this equipment away from the receiver
—plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

This unit uses 8 mm video format cassettes. It records in the SP mode (approximately 1.43 cm/second) and can play back in the SP mode and the LP mode (approximately 0.72 cm/second).

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Notes

- Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.
- For using your recorder abroad, see page 26.

The photos used in this manual are of the black type.

LOCATION AND FUNCTION OF PARTS AND CONTROLS

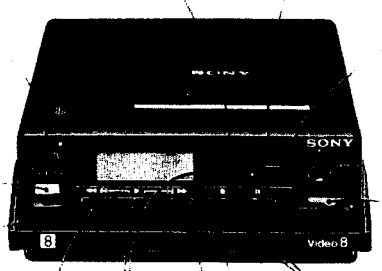
For details on the use of each control, refer to the pages indicated in the circles.

RESET button
Press to reset the counter to "0000".

MEMORY button
To return the tape to the "0000" point, press this button and the MEMORY mark appears. Then press the ▶▶ or ◀◀ button.

POWER switch and lamp

INSERT button and lamp
Press to insert a recording onto a previously recorded tape when the recorder is set in the playback pause mode.



EJECT button and lamp

● (record) switch and lamp
Slide to the right to start recording.

EDIT switch
Normally keep this switch at the left position.
When editing a tape onto another recorder, set the switch to the right "EDIT" position.

◀◀ (rewind) button

II (pause) button and lamp

▶ (play) button and lamp

■ (stop) button

▶▶ (fast forward) button

Display window
Blinks when moisture has condensed inside the unit.
Blinks when the inserted battery is exhausted.
The counter changes as the tape moves.
Indicates that the MEMORY function is activated.
Blinks slow when the tape is near at its end during recording. Blinks fast when the tape has been at its end.

BATTERY compartment and battery ejector (rear)
Insert an NP-22 battery pack, ACP-80UC ac pack, or DCP-80 dc pack.

Cassette compartment

12-pin connector
Provided for future use. Remove the cap before using the connector.

MULTI CONNECTOR (24-pin)
Connect an RFU-80UC RFU adaptor, AC-V8UC ac power adaptor, or TT-V8U tuner timer unit.

Ω (earphone) jack (minijack)
Connect an earphone to monitor the sound.

Carrying handle
Pull out to use.

REMOTE connector (5-pin)
Connect an RM-84 wired Remote Commander or RM-E100 or RM-E100V editing controller.

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POWER SOURCES

SELECTION OF POWER SOURCES

Operate the unit on one of the following power sources. This manual shows the operations on the battery pack, the ac pack and the car battery. For operation on other power sources, see the instruction manual furnished with the equipment to be used.

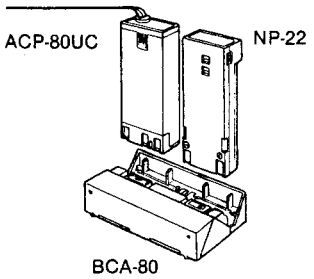
Place	Accessory to be used	Connection
Outdoors	Battery pack NP-22	page 7
Indoors (house current)	AC pack ACP-80UC	page 10
	Tuner timer unit TT-V8U	Quick guide [7]
	AC power adaptor AC-V8UC	Quick guide [8]
In the car	DC pack DCP-80 and car battery cord DCC-16AW	page 10

When the TT-V8U is connected
The following operations are possible.
- Power supply for the EV-C8U
- Battery charge
- Playback of a tape
- TV program recording
- Timer recording
- Tape editing

For details on connections and operations, please read the instruction manual furnished with the TT-V8U.

When the AC-V8UC is connected
The following operations are possible.
- Power supply for the EV-C8U
- Battery charge
- Playback and recording of a tape
- Tape editing

For details on connections and operations, please read the instruction manual furnished with the AC-V8UC.



BATTERY PACK

How to charge
Use the ACP-80UC ac pack and the BCA-80 battery charge adaptor to charge the battery.

Rapid charging
The charging time is about 1 hour for one battery only.

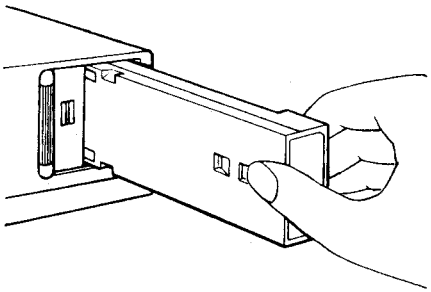
Open the side with △ OPEN mark of the BCA-80 battery charge adaptor.
Insert the battery with the metal contacts facing the inside.
Insert the ac pack into the battery charge adaptor with the metal contacts facing the inside.
Connect the ac power cord of the ac pack to the ac outlet.

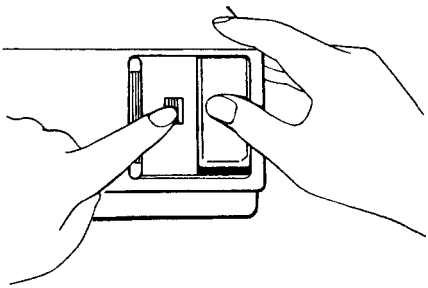
When the battery is fully charged, the charging will stop automatically and the CHARGE lamp of the battery charge adaptor will go out.

Normal charging
It takes about 8 hours to charge up to 3 batteries simultaneously. Slide the RELEASE switch of the BCA-80 in the direction of the arrow to open the other side and insert 1 to 3 batteries.
When the batteries are fully charged, the charging will stop automatically and the CHARGE lamp of the battery charge adaptor will go out.

Battery life
At normal temperatures, a fully-charged battery provides approximately 2 hours and a half of continuous operation.

Note
If the battery pack is not fully charged or if it is used in a cold place, the operating time is shortened.





To insert and remove the battery pack
Open the lid by sliding to the left.
Insert the battery into the battery holder with the metal contacts facing the inside. To remove the battery pack, push the battery pack in and hold it. At the same time slide the ejector to the right and the battery pack will slide out.

AFTER EACH USE, BE SURE TO RECHARGE THE BATTERY PACK.

Note on power source
Disconnecting the power source or removing the battery/ac pack during recording or playback may damage the inserted cassette tape. If this is done by accident, supply the power again immediately.

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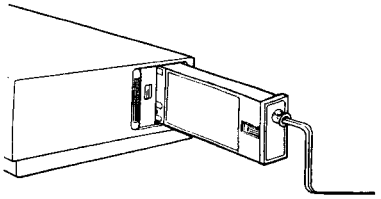
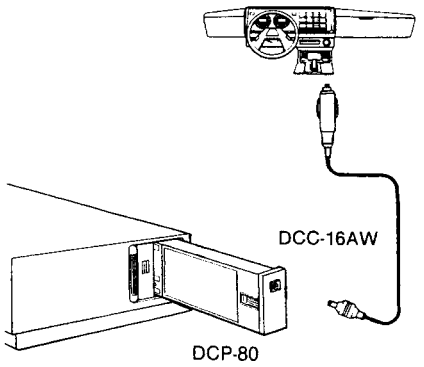


AC PACK

Connection

Insert the ac pack into the battery holder with the metal contacts facing the inside.
Connect the ac power cord of the ac pack to the ac outlet.



CAR BATTERY

Connection

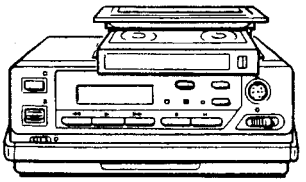
Insert the dc pack into the battery holder with the metal contacts facing the inside.
Connect the DCC-16AW car battery cord to the DC IN jack of the DCP-80 dc pack and to the cigarette lighter (12 V or 24 V) socket of a car.

To remove the ac pack or dc pack

Push the pack in and at the same time slide the ejector to the right. The pack will then slide out.

CASSETTE CARE

First of all, connect the power source.
Always insert a cassette in the correct direction. Never insert it upside down.



CASSETTE INSERTION

Press the POWER switch to turn on the power.
Press down the EJECT button and the cassette compartment will pop up.
Insert a cassette with the window upwards and the arrow mark in front.
Push down the cassette compartment.

CASSETTE EJECTION

1 Turn on the power.
2 Press down the EJECT button.
3 Take the cassette out and push down the cassette compartment.

THE TAB ON THE CASSETTE

(The photo is Sony type.)

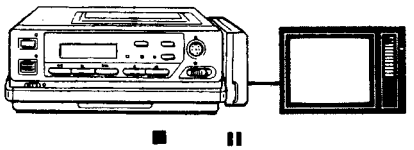
When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased. To avoid erasing a recording, slide the tab out to cover the opening.
When the tab is out, a recording cannot be made. To re-record on a cassette, slide the tab in.

Note

Never insert anything in the small holes on the rear of the cassette. These holes are used to sense the kind of tape, thickness of tape, if the tab is out or in, etc.

PLAYBACK OF THE RECORDED TAPE

CONNECTION



See "Quick guide to connections".
Connections [1] through [3] are only for viewing tapes or TV programs. When you are away from home and want to see the playback picture with an available TV, select one of the three ways.

OPERATION

Turn on the power.
Insert a cassette.
Turn on the TV or monitor.
When a TV without audio/video input jacks is connected, select the channel which is adjusted for the recorder.
When a TV/monitor with the audio/video input jacks is connected, set the input selector on the TV/monitor to the VIDEO mode.
Press the ▶ button.
The lamp lights and the playback starts.
To stop the playback, press the ■ button.

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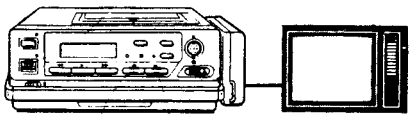
When the tape comes to an end, the unit automatically stops.

To obtain a still picture
Press the ❚❚ button during playback.
Streaks will appear in the still picture. The sound will be muted. To resume normal playback, press the ❚❚ button again.
When the pause mode lasts for more than approximately 7 minutes, the pause mode will be automatically released and the unit will be set in the stop mode.

To view the picture at high speed
Keep pressing the ▶▶ or ◀◀ button during playback. For high-speed playback picture in the forward direction, press the ▶▶ button. For high-speed playback picture in the reverse direction, press the ◀◀ button.
Streaks will appear in the high-speed pictures. The sound will be muted.
Release the button for normal playback.

Note
Color intensity of the playback picture of the tape recorded in the LP mode may vary repeatedly.



■ ❚❚

TV PROGRAM RECORDING

CONNECTION

See "Quick guide to connections".
Connections [4] through [8] make both TV program viewing/recording and tape playing possible.

OPERATION

Turn on the power.
Insert a cassette.
Select the channel to be recorded with the channel select button on the TV, TV tuner or the VCR connected.
For setting of selector switches, refer to "Quick guide to connections".
Slide the ● switch to the right.
The lamp lights and recording starts.
To stop the recording, press the ■ button.

To stop the recording momentarily
Press the ❚❚ button. The TV program can be seen on the TV/monitor but the picture will not be recorded.
To resume recording, press the ❚❚ button again.
When the recording pause mode lasts for approximately 7 minutes, the pause mode will be automatically released and the unit will be set in the stop mode.
● When the tape comes to an end, the "TAPE" mark will blink slow in the display window. When the tape has ended, the unit will be automatically set in the stop mode and the "TAPE" mark will blink fast.

Recording one TV program while viewing another
1 Set the TV/VTR selector on the VCR or the TV tuner to the TV mode.
2 Select the desired channel on the TV.

USE OF THE TAPE COUNTER

TO INDEX THE WHOLE TAPE

When the unit is turned on, the tape counter will appear in the display window. Press the RESET button at the beginning of the tape so that the counter shows "0000". By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.
Write the counter readings you want to remember on the label of the cassette.

TO RETURN TO A PRE-REGISTERED POINT

During recording or playback, press the RESET button at the point you later want to locate. The counter will be set at "0000".
1 Press the ■ button to stop the tape, when the recording or playback has finished.
2 Press the MEMORY button and the "MEMORY" mark will appear in the display window.
3 Press the ▶▶ or ◀◀ button.
The tape will be sent forward or in reverse and stop automatically when the counter reaches "0000".

Notes
● While the "MEMORY" mark appears in the display window, the counter cannot be reset to "0000", therefore, press the MEMORY button to cancel the function and then press the RESET button.
● The counter reading and the point of the tape may not correspond exactly.

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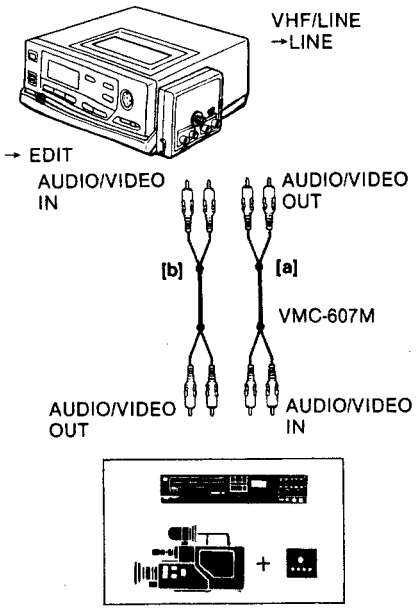


EDITING

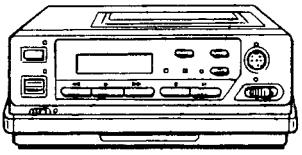
To edit a home movie tape you will need another VCR or video camera recorder.
An 8 mm format cassette can be edited to VHS, VHS and other format cassettes, and vice versa.
Connect the RFU-80UC RFU adaptor to the EV-C8U before making the other connections.

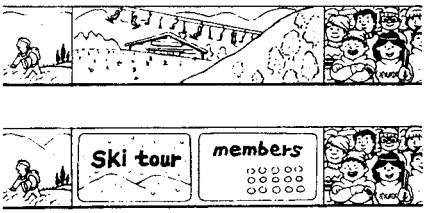
1 **To transfer the original tape from the EV-C8U to the tape on another VCR or video camera recorder,** connect the AUDIO/VIDEO OUT jacks of the RFU-80UC to the AUDIO/VIDEO IN jacks of the recorder, set the VHF/LINE selector on the RFU-80UC to LINE and set the EDIT switch to the right "EDIT" position. **[a]**
To transfer the original tape from another VCR or video camera recorder to the tape on the EV-C8U, connect the AUDIO/VIDEO IN jacks on the RFU-80UC to the AUDIO/VIDEO OUT jacks of the recorder. **[b]**
2 Turn on the power of the equipment.
3 Start editing.

CAUTION
Television programs, films, video tapes and other materials may be copyrighted. Unauthorized duplication of such material may be contrary to the provisions of the copyright laws.

Notes
- The optional RM-E100/E100V video editing controller allows easier editing between two VCRs.
- The required connecting cords may differ depending on VCRs. Refer to the instruction manual of the VCR.
- If you have set the EDIT switch to the "EDIT" position, be sure to return the switch to the left position when you are through editing.

FUNCTION OF THE EDIT SWITCH
Set this switch to the "EDIT" position when recording the playback of this video cassette recorder with another recorder. Signal loss that results from the tape-to-tape transfer will be reduced and the playback signals of this video cassette recorder will be transferred more accurately.
When using this video cassette recorder for recording or for normal playback, keep this switch to the left position.





"9970" "0000"

INSERT RECORDING

You can insert (record) video and audio simultaneously from a TV or a VCR onto any recorded tape.

PREPARATION

Make the necessary connections. For details on each connection and operation, refer to the corresponding page.

To insert a TV program (page 15)
Make the necessary connections as described in TV program recording.

To insert a recording from another VCR (page 18)
Make the necessary connections as described in editing.

Note
Insert recording cannot be made with the tape recorded in the LP mode.

OPERATION

Monitor the playback picture of the recorded tape and decide where the insertion should be made.

Find the position for the end of the insert and press the RESET button. The counter returns to "0000".

Press the MEMORY button. The "MEMORY" mark appears on the display window.

Rewind the tape back past where the insert should begin (e.g. "9970") by pressing the ◀◀ button during playback.

Release the ◀◀ button and press the ❚❚ button at the place the insert should begin. The unit is set in the playback pause mode.

Press the INSERT button. The unit is set in the insert pause mode. The ▶ lamp goes out and the INSERT and the ❚❚ lamp will light.

Play the inserting source of the connected equipment and press the ❚❚ button.

The insert recording will start and the counter reading will increase.

The insert recording stops at the counter reading "0000" and the INSERT lamp goes out.

Instead of deciding the point where the insert should end, as described in step , you may wish to continue the insertion and stop it at a suitable point while monitoring the inserted recording. In this case, start operating from step . Proceed with the remaining steps and stop the insertion by pressing the ■ button.

When the pause mode lasts for approximately 7 minutes, the pause mode will be automatically released and the unit will be set in the stop mode.

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PRECAUTIONS

OPERATION

- Operate the unit on 6-8.5 V dc.
- For dc or ac operation, use the accessories recommended in this manual.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Avoid rough handling or mechanical shock to the unit.
- Remove and store video cassettes after recording or playback.
- Do not wrap up the unit and operate it because heat may build up internally.
- Avoid using and storing the recorder in the following locations.

—Locations subject to direct sunlight or near heat sources.
(Inside a car with doors and windows closed.)
—Locations susceptible to vibration.
—Locations exposed to strong magnetic fields.
—Locations near TV or radio transmitters where strong radio waves are generated.

CARE

- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
- When the unit will not be used for a long period of time, periodically turn on the power, and play back a tape for about three minutes.
- Clean the recorder body with a dry, soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

NOTES ON MOISTURE CONDENSATION

MOISTURE INSIDE THE UNIT

If the unit is brought directly from a cold to a warm location, moisture may condense on the drum assembly inside the unit. In this condition, the tape may adhere to the head drum. Take the cassette away.
To prevent possible damage under these circumstances, the recorder section is furnished with a moisture sensor. If moisture is present, the [mark] mark will blink when the power is turned on and the function buttons except for the EJECT button will not work. When a cassette has been inserted, the [mark] mark and the EJECT lamp will blink and the tape will be automatically unloaded.

If the [mark] mark blinks, eject the cassette and proceed as required.

When a battery pack is used as the power source

Turn off the unit and let the unit sit with the cassette compartment open until the moisture evaporates and the [mark] mark goes out when the power is turned on. In case the [mark] mark does not go out in a few hours, use an ac power adaptor or a dc pack as the power source.

When an ac power adaptor or a dc pack is used as the power source
Leave the unit turned on, so that the heater built in the recorder will activate to make the moisture evaporate.

When the moisture has completely evaporated, the [mark] mark will go out. Then operate the unit as usual.

MOISTURE ON THE TAPE

If a tape is brought directly from a cold to a warm location, moisture may condense on the surface of the tape. When the tape is inserted and a tape transport button (such as the ▶ button) is pressed, the EJECT lamp will blink and the function buttons except for the EJECT button will not work. In this case the 💧 mark will not appear.

If the EJECT lamp blinks, eject the cassette and let the unit and the cassette sit until the moisture evaporates.

When to use
The unit can be used again if the EJECT lamp does not light when a cassette is inserted and a tape transport button is pressed.

SPECIFICATIONS

System

Video recording system	Rotary two heads, Helical scanning FM system
Audio recording system	Rotary head, FM system
Video signal	NTSC color, EIA standards
Usable cassettes	8 mm video format cassettes
Tape speed	SP: Approx. 1.43 cm/sec. LP: Approx. 0.72 cm/sec. (playback only)
Recording or playback time	120 min. (P6-120)
Fast forward time	Approx. 3 min. (P6-90)

Input and output connector

MULTI CONNECTOR	24-pin Video input: 1 Vp-p, 75 ohms unbalanced, sync negative Video output: 1 Vp-p, 75 ohms unbalanced, sync negative Audio input: −10 dBs, input impedance more than 47 kilohms Audio output: −10 dBs, output impedance less than 2.2 kilohms
Earphone jack	Minijack, 8-ohm impedance
Remote jack	5-pin connector
12-pin connector	Conforms to 8 mm video specifications

General

Power requirements	MULTI connector 8.5 V Battery holder 6 V/8.5 V
Power consumption	2.6 W (battery operation)
Installation	Horizontally, vertically (battery operation)
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	−20°C to +60°C (−4°F to +140°F)
Dimensions	Approx. 173 × 70 × 171 mm (w/h/d) ($6\frac{7}{8} \times 2\frac{7}{8} \times 6\frac{3}{4}$ inches) Excluding carrying handle and projections on the bottom
Weight	Approx. 1.1 kg (2 lb 7 oz) Excluding the battery and cassette Approx. 1.5 kg (3 lb 5 oz) Including the battery and cassette

Accessory supplied

RFU adaptor RFU-80UC with
Antenna selector ANS-34
Antenna connector EAC-24
75-ohm coaxial cable with F-type connectors (2)

Optional accessories

Tuner timer unit TT-V8U, AC power adaptor AC-V8UC, Battery pack NP-22, DC pack DCP-80, Car battery cord DCC-16AW, Remote Commander RM-84, Editing controller RM-E100/E100V, Cable VMC-607M (2 phono plugs to 2 phono plugs), VMC-609MS (2 phono plugs to 3 phono plugs), VMC-612MS (AV miniplug to 2 phono plugs)

Design and specifications are subject to change without notice.

MC-Service

USING YOUR RECORDER ABROAD

Each country has special TV color broadcast and electricity systems. Before using your recorder abroad, check the following points.

Differences in color systems
If you prepare fully charged batteries and extra video cassette tapes, you can use your recorder in any country. However, to monitor the playback picture and recording on a TV, the TV must be based on the NTSC system and equipped with audio/video input jacks.

NTSC system countries
Bahama Islands, Canada, Central America, Japan, Korea, Mexico, Taiwan, the Phillipines, U.S.A., etc.

PAL system countries
Australia, Austria, Belgium, China, Denmark, Great Britain, Holland, Hong Kong, Italy, Kuwait, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, West Germany, etc.

SECAM system countries
Bulgaria, France, Hungary, Iran, Iraq, Luxemburg, Monaco, Poland, the Soviet Union, etc.

To charge the battery
Prepare a Sony BCA-80 battery charge adaptor, DCP-80 dc pack and a DCC-16AW car battery cord. The battery can be charged with a 12 V or 24 V car battery.

For details on charging, please read the instruction manual furnished with each unit.

TROUBLESHOOTING

If you think you have a problem, double-check before calling the serviceman. You may have overlooked something relatively simple!

	Symptom	Display window			Possible causes
				TAPE	
POWER	Power is not supplied to the recorder even if the POWER switch is pressed.				● The ac power adaptor or the tuner timer unit is connected. (Press the power switch on the ac power adaptor or the tuner timer unit.) ● The battery is exhausted. ● The ac power cord of the ac pack is not connected.
	The power turns off.		O		The battery is exhausted.
	The battery pack is quickly discharged.				● The ambient temperature is too low. ● The battery pack has not been charged fully.
RECORDING/PLAYBACK	Playback cannot be done even when the ▶ button is pressed.			O	The tape is at its end.
	Recording or playback cannot be monitored on the screen.				● Connections are incorrect. ● Setting of the VHF/LINE selector on the RFU-80UC is incorrect. ● The video channel is not selected on the TV receiver.

O Blinking

RECORDING/PLAYBACK	Recording cannot be done even when the ● switch is slid to the right.				The tab on the cassettes is out (red).
				○	The tape is at its end.
	The playback picture is not clear.				● The video channel on the TV receiver is not correctly adjusted. ● The EDIT switch is set to the right "EDIT" position. ● The video heads may be contaminated.
OTHERS	The cassette cannot be removed from the compartment.		○		The battery is exhausted.
					The power is turned off.
	The tape stops during fast-forward or rewinding				● MEMORY function is activated.
			○		● The battery is exhausted.
	No function button except for the EJECT button works.	○			Moisture has condensed on the drum assembly inside the unit.
					Moisture has condensed on the tape.

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